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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,004	08/29/2003	Darwin Mitchel Hanks	200209012-1	9904

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EXAMINER

GOMA, TAWFIK A

ART UNIT PAPER NUMBER

2627

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/652,004	HANKS, DARWIN MITCHEL	
	Examiner	Art Unit	
	Tawfik Goma	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 25-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of claims 1-24 in the reply filed on 7/5/2006 is acknowledged. Applicant presented persuasive arguments pertaining to the restriction, which the examiner agrees with. Applicant's partially traversed the restriction, such that there are two inventions, Invention I related to claims 1-24; and Invention II encompassing related to claims 25-29. Applicant has acknowledged that claim 24 is an obvious variant of claims 1-23, and as such is not patentably distinct. Applicant has not traversed the restriction of claims 25-29 pertaining to the second invention and therefore the election has been treated as an election without traverse.

Claims 25-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/5/2006.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 provides for the use of focus control method, but, since the claim does not set forth the steps involved in the method, it is unclear what method applicant is intending to encompass. A claim is indefinite where it merely recites a use without the

active, positive steps delimiting how this use is actually practiced. The claim determines the spot size of the beam, but does not claim any steps wherein the spot size is used for the focus control as claimed by the method. Claims 2-23 are rejected as they are dependent on claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, 9-10, and 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Niwayama (US 5363357).

Regarding claims 1, Niwayama discloses a method of focus control, comprising: passing a light source beam over a reflectivity change on a storage media (col. 9 lines 15-23); determining a change time of a reflectivity step function (fig. 9a-9c); and determining a current light source spot size using the change time and a storage media velocity (col. 9 lines 29-62). Niwayama discloses that the relative velocity between the objective lens and the medium is used with a change time of the reflectivity change to detect when a beam size is at an in-focus state. The velocity of Niwayama is the velocity of the head movement, but it reads on the storage media velocity because it is a relative velocity of the head and the storage medium, which is the same as what is claimed by applicant in dependent claim 7

Regarding claim 2, Niwayama further discloses adjusting a focus actuator to

achieve a desired spot size based on the current light source spot size (fig. 10 and fig. 13 (b) and col. 10 lines 37-44).

Regarding claim 3, Niwayama further discloses wherein the reflectivity step function is derived from the output of at least one photo sensor (38, fig. 8).

Regarding claim 4, Niwayama further discloses wherein the change time comprises a photo sensor output rise time (Region A, fig. 9c).

Regarding claim 5, Niwayama further discloses wherein the change time comprises a photo sensor output fall time (Region C, fig. 13c).

Regarding claim 7, Niwayama further discloses wherein: passing the light source beam over the reflectivity change on the storage media comprises moving the light source beam with respect to the storage media, while holding the storage media stationary; and the storage media velocity is the velocity of the storage media relative to the light source beam (col. 9 lines 29-37).

Regarding claim 9, Niwayama further discloses wherein the reflectivity change on the storage media comprises a change from a higher reflectivity to a lower reflectivity (Region C, fig. 13c).

Regarding claim 10, Niwayama further discloses wherein the reflectivity change on the storage media comprises a change from a lower reflectivity to a higher reflectivity (Region A, fig. 13c).

Regarding claim 18, Niwayama further discloses wherein the storage media is selected from the group consisting of a compact disc and a digital versatile disc (col. 8 lines 54-56).

Regarding claim 19, Niwayama discloses a method for focus error signal generation, comprising: passing a light source beam over a reflectivity change on a storage media (col. 9 lines 9-22); and determining a slope of a reflectivity step function, based on reflected light from the passing light source beam sensed by at least one photo sensor, for use as a focus error signal (col. 9 lines 38-62 and fig. 13c).

Regarding claim 20, Niwayama further disclose wherein determining the slope of the reflectivity step function comprises passing a photo sensor output through a differentiator (21, fig. 8).

Regarding claim 21, Niwayama further discloses wherein determining the slope of the reflectivity step function comprises passing a sum of multiple photo sensor outputs through a differentiator (38, fig. 8 and fig. 13).

Regarding claim 22, Niwayama further discloses wherein the differentiator comprises a series capacitor and a resistor to ground (21, fig. 8).

Regarding claim 23, Niwayama further discloses normalizing the slope of the reflectivity step function by dividing the slope of the reflectivity step function by an amplitude of the at least one photo sensor (fig. 13 and col. 11 lines 40-49).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwayama (US 5363357).

Regarding claims 6 and 8, Niwayama discloses everything claimed as applied above (see claims 1 and 7). Niwayama discloses that a relative velocity between the objective lens and the medium is detected even in the case of an external vibration (col. 10 lines 6-10 and col. 9 lines 29-36). It is obvious that the external vibration disclosed by Niwayama would include the cases wherein the medium is moved relative to the objective lens, and the case wherein both the objective lens and the medium are moved with respect to one another as a result of the external disturbance.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwayama (US 5363357) in view of Ito et al (Us 5608717).

Regarding claims 11-13, Niwayama discloses everything claimed as applied above (see claim 1). Niwayama fails to disclose wherein the reflectivity change on the storage media comprises a bar, a stripe and a checkerboard pattern in a label layer of the storage media. In the same field of endeavor, Ito discloses wherein a reflectivity change on a storage medium can be any graphical pattern on a label (col. 10 lines 12-19 and 14, fig. 1 and fig. 16). It would have been obvious to one of ordinary skill in the art to modify the recording medium disclosed by Niwayama by using a label with a graphical pattern as taught by Ito. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide a

graphical pattern on a label in order to present a logo and to prevent illegal copying of a disk (fig. 1 and col.10 lines 6-19).

Regarding claims 14-16, Niwayama discloses everything claimed as applied above (see claim 1). Niwayama fails to disclose wherein the reflectivity change on the storage media comprises a bar, a stripe and a checkerboard pattern in a data layer of the storage media. In the same field of endeavor, Ito discloses wherein a reflectivity change on a storage medium can be any graphical pattern on a data layer (col. 10 lines 17-23 and 14, fig. 1 and fig. 16). It would have been obvious to one of ordinary skill in the art to modify the recording medium disclosed by Niwayama by using a data layer with a graphical pattern as taught by Ito. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide a graphical pattern on a data layer in order to prevent it more difficult to recreate the copy protection information (fig. 1 and col.10 lines 17-23)

Claims 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwayama (US 5363357) in view of Anderson et al (US 2003/0179674).

Regarding claim 17, Niwayama discloses everything claimed as applied above (see claim 1). Niwayama fails to disclose wherein passing the light source beam over a reflectivity change on the storage media comprises passing the light source beam from a label side of the storage media over the reflectivity change on the storage media. In the same field of endeavor, Ito discloses passing a light source over a label layer from the label side (fig. 5 and par. 32). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Niwayama by passing the light source over a

label layer as taught by Anderson. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to focus on a label layer of a disk in order to read copy protection and discrimination information recorded on the label layer.

Regarding claim 24, Niwayama discloses everything claimed regarding the method of focusing based on a the change time of the step function as in claims 1 and 19 above. Niwayama fails to disclose wherein the method is for imaging a label layer of storage medium. In the same field of endeavor, Anderson discloses reading a reflectivity change of a label layer of a recording medium and selectively turning a light source on over areas of the label layer which are sensitive to the light source to produce a visible image on the label layer (fig. 5 and pars 20 and 32). The rationale for combining follows as in claim 17.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshino (US 5424538) discloses a focusing method wherein rise times of detection signals obtained using a knife edge system are used to determine the size of the optical spot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


T. Goma
9/15/2006


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